



# Symbol MiniScan MS22XX Series

## Fixed Mount Scanner



### FEATURES

**“Smart” raster pattern automatically tailors the pattern to the height of the PDF417 symbol**

Enables even novice users to scan items quickly and accurately

**Versatility with adaptive scan patterns: 1D linear and PDF raster**

Application can be customized using multiple triggering methods to produce the appropriate scan pattern

**Compact, rugged, durable housing with integrated beeper, mounting holes, LEDs, decoder and a variety of interfaces**

Plug-and-play installation reduces development time and improves time to market

**Sealed to IP54 standards**

Protects against water and dust for reliable performance in rough conditions

### High-performance, fixed mount scanning made simple

The Symbol MS22XX Series is a compact, affordable industrial fixed mount scanner that provides fast, aggressive performance on a full range of 1D and 2D symbologies including PDF417, RSS and composite codes.

Available in standard and a VHD version to read high-density bar codes, the Symbol MS22XX offers a “smart” raster pattern optimized to read 2D symbols and poorly printed linear bar codes, making this fixed mount scanner ideal for use in a variety of automated data collection devices.

### Plug-and-play installation speeds time to market

Symbol MS22XX fixed mount scanners are easy to program and configure, enabling you to shorten your development time and bring your product to market faster — even if you don’t have in-house technical resources for scanner integration. With its rugged durable housing, exit window, integrated beeper and interface options, the Symbol MS22XX enables your project teams to quickly and confidently integrate high-performance 1D and 2D bar code data capture into standalone and OEM applications.

### Proven technology to enhance your solutions

With millions of installations worldwide, our OEM devices are proven to deliver high reliability and superior performance, ensuring the accurate and quick capture of data and images in your mission-critical applications and devices. In addition, an easy-to-integrate design and expert assistance from our world-class OEM support team enable you to bring your systems to market quickly and cost effectively. And since even the most intelligent products require a maintenance plan and a support strategy, we offer superior services to help you maximize uptime and maintain peak performance.

For more information about the Symbol MS22XX, access our global contact directory at [www.symbol.com/contact](http://www.symbol.com/contact) or visit us on the web at [www.symbol.com/ms22xx](http://www.symbol.com/ms22xx)

## SPECIFICATION SHEET

SYMBOL MINISCAN MS22XX SERIES  
Fixed Mount Scanner

### High speed scan rate— 640 scans per second

Ensures fast, reliable data collection on all 1D and 2D codes for maximum productivity

### Automatic software-controlled or manual triggering

Supports unattended and hands-free applications

### Integrated beeper with external beeper support

Allows internal or external beeper to be driven depending on application

### Easy-to-program simple serial interface (SSI)

Provides fast, simple interface communication with advanced features and functionality between scanner and host

### Optional Software Developer's Kit (SDK)

Enables creation of applications using Windows® 98, 2000 and XP platforms

### Supports 123Scan utility (multi-interface 07 versions only)

Easy-to-use PC-based utility reduces end-user installation time

### Multiple mounting options

Increases development flexibility

## Applications

### Fixed-mount or industrial standalone

Manufacturing and warehousing; assembly lines; conveyor belts; security and ID verifications; library and document tracking; backroom receiving; driver licenses and DMV

### OEM

Interactive kiosks and ATMs; healthcare and medical equipment; clinical diagnostic devices; security and ID verification; robotic equipment; blood analysis; gas pumps; data storage systems; gaming and lottery terminals; vending machines; turnstiles/access control

# Symbol MS22XX (Standard and VHD) Specifications

## Physical Characteristics

Dimensions:	1.60H x 2.28W x 2.94D (in) 40.64H x 57.91W x 74.76D (mm)
Weight:	4.73 oz./134 gms
Interfaces:	MS2204/MS2204 VHD: RS 232 MS2207: TTL RS 232, USB, Synapse

## User Environment

Ambient Light:	Artificial Light 450 ft. candles (4,844 Lux) Sunlight 8,000 ft. candles (86,112 Lux)
Operating Temperature:	-4° to 122°F (-20° to 50°C)
Storage Temperature:	-40° to 158°F (-40° to 70°C)
Humidity:	5% to 95% non-condensing
Power:	Input Voltage: 5.0 VDC ±10% Scanning Current: 250 mA typical Standby Current: MS2204/2204VHD: 25mA typical +/- 5mA MS2207: 45mA typical +/- 5mA

Drop:	Unit functions normally after multiple 30 in (76 cm) drops to concrete
Symbologies:	All major 1D bar codes and PDF bar codes
Programmable Parameters:	Parameters: Laser On Time, Power Mode, Trigger Mode, Bidirectional Redundancy, Symbology Types/Lengths, Data Formatting, Serial Parameters, Beeper Tone, Pattern Controls

Environmental Sealing:	IP54
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## Regulatory

Laser Classification:	CDRH Class II, IEC Class 2
Electrical Safety:	Certified to UL1950, CA C22-2 NO950 ENG60950/IEC950
EMI/RFI:	FCC Part 15 Class B, ICES-003 Class B European Union EMC Directive, Australian SMA

## Performance Characteristics

Light Source:	Visible Laser Diode 650 nm
Scan Rate:	640 scans per second
Scan Angle:	Cyclone Raster Horizontal: 34° ±1.5° 34° ±1.5° Vertical: 34° ±1.5° 12.5° ±1.5°
Scan Patterns:	Linear, smart PDF raster Omni-directional, Raster, Single-line, Semi-omni-directional
Minimum Print Contrast:	Minimum 35% absolute dark/light reflectance measured at 650 nm.

## Ranges - 1D codes:

### MS-220x

**6 mil:** Code 39 - 80% MRD:

2 - 5.25 (in) / 5.08 - 13.34 (cm)

**7.5 mil:** Code 39 - 80% MRD:

1.5 - 7 (in) / 3.81 - 17.78 (cm)

**13 mil:** 100% UPC - 80% MRD:

\* - 14 (in) / \* - 35.56

**20 mil:** Code 39 - 80% MRD:

\* - 19 (in) / \* - 48.26

**40 mil:** Code 39 - 80% MRD:

\* - 24 (in) / \* - 60.96 (cm)

**55 mil:** Code 39 - 80% MRD:

\* - 31 (in) / \* - 78.74

### MS-220xVHD

**4 mil:** Code 39 - 80% MRD:

2 - 3.4 (in) / 5.08 - 8.64 (cm)

**5 mil:** Code 39 - 80% MRD:

1.75 - 4.1 (in) / 4.45 - 10.41 (cm)

**6 mil:** Code 39 - 80% MRD:

1.75 - 4.75 (in) / 4.45 - 12.07 (cm)

**7.5 mil:** Code 39 - 80% MRD:

1.5 - 5.25 (in) / 3.81 - 13.34 (cm)

**55 mil:** Code 39 - 80% MRD:

\* - 15 (in) / \* - 38.10 (cm)

## PDF 417 codes:

### MS-220x

**6.6 mil:** PDF417 - 80% MRD:

1.5 - 6 (in) / 3.81 - 15.24 (cm)

**10 mil:** PDF417 - 35% MRD:

3.5 - 8 (in) / 8.89 - 20.32 (cm)

**10 mil:** PDF417 - 80% MRD:

3.5 - 9 (in) / 8.89 - 22.86 (cm)

**15 mil:** PDF417 - 80% MRD:

5.6 - 15 (in) / 14.22 - 38.1 (cm)

### MS-220xVHD

**4 mil:** PDF417 - 80% MRD:

1.9 - 3 (in) / 4.83 - 7.62 (cm)

**6.6 mil:** PDF417 - 80% MRD:

1.5 - 4.75 (in) / 3.81 - 12.07 (cm)

**10 mil:** PDF417 - 80% MRD:

3 - 5.75 (in) / 7.62 - 14.61 (cm)

\* = Near ranges on lower densities largely depend on the width of the bar code and the scan angle.



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